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Pesticide Fact Sheet Number 32: Bronopol

(U.S.) Environmental Protection Agency
Washington, DC

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15. Supplementary Notes

16. Abstract (Limit: 200 words)

This document contains up-to-date chemical information, including a summary of the Agency's regulatory position and rationale, on a specific pesticide or group of pesticides. A Fact Sheet is issued after one of the following actions has occurred.

1. Issuance or reissuance of a registration standard,
2. Issuance of each special review document,
3. Registration of a significantly changed use pattern,
4. Registration of a new chemical, or
5. An immediate need for information to resolve controversial issues relating to a specific chemical or use pattern.

17. Document Analysis a. Descriptors
Pesticides, regulations, Chemical Information Fact Sheet, Use Patterns, Science Findings

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

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United States
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Office of Pesticides and Toxic Substances
Office of Pesticide Programs (TS-788C)
Washington, DC 20460

EPA

Pesticide Fact Sheet

Name of Chemical: BRONOPOL
Reason for Issuance:
Date Issued: August 2, 1984
Fact Sheet Number: 32

1. Description of Chemical

Generic Name: 2-Bromo-2-nitropropane-1,3-diol
Common Name: Bronopol - Boots
Trade Name: Myacide B10, Myacide AS
EPA Shaughnessy Code: 216400
Chemical Abstracts Service (CAS) number: 52-51-7
Year of initial registration: August 2, 1984 (EPA Reg. No. 33753-1; MUP)
Pesticide Type: Bactericide
Chemical Family: Alcohol
Producers: U.S. _____ none
Foreign ___ The Boots Co., PLC

2. Use Patterns and Formulations

Application Sites: pesticide manufactering facilities.
Types of Formulations: crystalline powder
Types and Methods of application: the only registration is for manufacturing use only. N/A
Application rates: N/A
Usual carriers: water

3. Science Findings

Chemical Characteristics:

Physical state: white crystalline powder
Melting point: approx. 130°C
Bulk density: 1.10 mg/ml
Solubility:

in ethanol	50%
in water (25°C)	25%
in ethylene glycol	61%
in chloroform	0.9%

Toxicity Characteristics:

Study	Effects	Catagory
Eye Irritation	5% solution strongly irritating	I
Skin Irritation	a severe irritant	I
Dermal LD_{50}	not specified	I
Oral LD_{50} (mg/kg):		 II
orally administered.....	male 307 & female 342 (rat)	
	male 374 & female 327 (mouse)	
intraperitoneal	male 22.0 & female 30.2 (rat)	
	male 22.8 & female 34.7 (mouse)	
Inhalation LC_{50}	LC_{50} > 5 mg/L	III
Dermal Sensitization	not a skin sensitizer	
90 day Oral (rat)	no observable effect level:	20 mg/kg/day
.....	lowest effect level:	80 mg/kg/day
Teratology	no observable effect level:	3.3 mg/kg/day
(rabbit)	lowest effect level:	10 mg/kg/day

Physiological and Biochemical Behavioral Characteristics:

Foliar absorption: N/A
Translocation: N/A
Mechanism of pesticidal action: N/A
Metabolism and persistence in plants and animals: N/A

Environmental Characteristics:

Adsorption and leaching basic soil types: N/A
Microbial breakdown: N/A
Hydrolysis: bronopol appears to hydrolyze slowly at acidic or neutral pH conditions. Bronopol decomposes in aqueous solution on exposure to light. Increases in temperature increases decomposition. Label required to disallow any pesticide waste discharge into aquatic environments.
Bioaccumulation: N/A

Ecological Characteristics:

Mallard duck Acute Oral LD_{50} = 510 mg/kg
Fresh Water Invertebrate (Daphnia) 48 hr EC_{50} = 1.4 mg/L

Efficacy Data: N/A

Tolerance assessments: N/A, no crop applications.

Problems which are known to have occurred with use of the chemical (e.g., PIMS): none

4. Summary of Regulatory Position and Rationale:

Use Classification: General Use
Use, formulation, manufacturing process or geographical restrictions: do not discharge into aquatic environments unless in accordance with and NPDES permit.

Unique warning statements required of labels: none
Summary of risk/benefit review: none, risk assessment was not conducted.

5. Summary of major data gaps

The following studies are to submitted by December 13, 1984:

a. Avian Acute LC_{50}
b. Fish Acute LC_{50} (Rainbow trout)

6. Contact person at EPA:

John H. Lee,
Product Manager 31
Disinfectants Branch
Registration Division (TS-767C)
Tel. (703) - 557-3675

DISCLAIMER:The information presented in this Chemical Information Fact Sheet is for informational purposes only and may not be used to fulfil data requirements for pesticide registration and reregistration.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labelling.

For use by manufacturers in formulating disinfectants, sanitisers, and preservatives.

Formulators using this product are responsible for obtaining EPA registration for their formulated product and for providing appropriate data.

STORAGE AND DISPOSAL

— Do not contaminate water, food, or feed by storage or disposal. Keep away from heat.
— Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
— Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Triple rinse (or equivalent). Then offer drum for recycling or reconditioning, or puncture. Dispose of drum and liner in a sanitary landfill, or by incineration, if allowed by State and local authorities. If burned, stay out of smoke.

EPA Registration No. 33783-1
EPA Establishment No. 33783-UK-01

BRONOPOL - KEETA™

For Use in Formulating Indust Products*

*Including Disinfectants, Sanitisers, and Preservatives.

Active Ingredient:

2-Bromo-2-nitropropane-1,3-diol	100%
Inert Ingredients:	0%
Total	100%

Net Contents: _____

Keep Out Of Reach Of Children
DANGER

Statement of Practical Treatment

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes, call a physician. If swallowed, drink milk, egg whites, gelatin solution or if these are not available, drink large quantities of water. Call a physician.

Note To Physician

Probable mucosal damage may contra-indicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsion may be needed.

See side panel for additional precautionary statements.

MADE IN ENGLAND BY
THE BOOTS CO. PLC
NOTTINGHAM
NG2 3AA

Chemical and Physical Properties

Molecular Weight	200
Solubility	
in Water (25°C)	20% w/v
in Ethanol	50% w/v
in Ethylene glycol	81% w/v
in Chloroform	0.9% w/v
Bulk Density	1.1 g/ml
Melting Point	approx 130°C
Physical State	white, or almost white crystals or crystalline powder.

Bronopol-Keeta is compatable with non-ionic or cationic additives, and with anionic additives which are neutral or acidic.

ACCEPTED
with COMMENTS
In EPA Letter Dated:
AUG 02 1984
Under the Federal Insecticide, Fungicide, and Rodenticide Act for the pesticide registered under EPA Reg. No. 33783-1

PRECAUTIONARY STATEMENTS

Hazards To Humans And Domestic Animals

DANGER: Corrosive. Causes eye and skin damage. Do not get in eyes or skin or on clothing. May be fatal if swallowed. Avoid breathing dust. Wear goggles or face shield and rubber gloves when handling.

ENVIRONMENTAL HAZARDS

Do not discharge into lakes, streams, ponds or public water unless in accordance with an NPDES permit. For guidance contact your Regional Office of the EPA.

BEST DOCUMENT AVAILABLE